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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,751	10/18/2007	Saeed R. Khan	KD-JHU/6010-1	1124
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DLA PIPER LLP (US) 4365 EXECUTIVE DRIVE SUITE 1100 SAN DIEGO, CA 92121-2133				
EXAMINER				
CHANDRAKUMAR, NIZAL S				
ART UNIT		PAPER NUMBER		
1625				
MAIL DATE		DELIVERY MODE		
01/11/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/596,751

**Applicant(s)**

KHAN, SAEED R.

**Examiner**

NIZAL S. CHANDRAKUMAR

**Art Unit**

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 11-19 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 8, 17, 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

Applicants response filed 12/11/2009 is acknowledged.

Claims 1-9, 11-19 are pending.

Claims 14-16 previously withdrawn due to Election/Restriction.

Response to Remarks:

***Claim Rejections - 35 USC § 112***

Previously presented rejections are withdrawn in view of amendments to claims and applicants persuasive arguments.

***Claim Rejections - 35 USC § 102***

Previously presented rejections are withdrawn in view of amendments to claims and applicants persuasive arguments.

***Double Patenting***

Applicants have filed terminal disclaimer. The rejection is held in abeyance pending approval of the Terminal Disclaimer.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Previously presented rejection of claims 1-7, 9, 11-13, under 35 U.S.C. 103(a) as being unpatentable over by Kumar et al. Journal of Medicinal Chemistry 2003, 46(14), 2813-2815 is maintained for reasons of record.

Applicant's arguments were fully considered but are not persuasive.

Applicant's arguments center on the following:

1. Property: The difference in potency of the instant claims vs. the three compounds of Kumar et al. is such that one of skill in the art would not be motivated to modify the teachings of Kumar et. al.

2. Structure: The difference in X1, L1 and R1

Response: Kumar et al. do not disclose all the structural embodiments and their properties as instantly claimed. However, one of skill in the art would recognize, that central to the teaching of Kumar et al. is the identification of boronic acid group as biological surrogate for carboxylic acid group in the Michael Acceptors chalcones (see page 2813, last two sentences of the first full paragraph of column B) and that a detailed Structure-Active-Relationship is worth pursuing (see Conclusion section on page 2815

last sentence). As such the compounds of Kumar et al. are, *at the minimum*, starting points for SAR study. However, Kumar et al. teach that (in spite of) the high IC50 values, the compounds cause cell growth inhibition (see Results and Discussion, last two lines, column B). Further Kumar et al. compounds fall under scope of the instant claims (see rejection under U.S. C. 102) The instantly claimed substituents are commonly employed groups in the medicinal chemistry art for optimization of physical and biological properties. One of skill in the art would be motivated by the biological activity of the compounds Kumar et al. to modify the structural template of Kumar et al to arrive at the instant claims.

## New Rejections

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

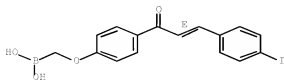
A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

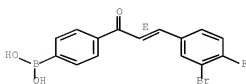
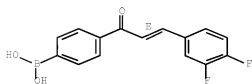
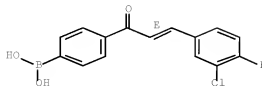
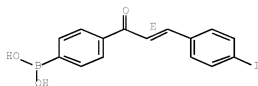
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 9, 11-13, are rejected under 35 U.S.C. 102(a) as being anticipated by Kumar et al. Journal of Medicinal Chemistry (2003), 46(14), 2813-2815.

Kumar et al. teach



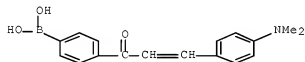
corresponding to compound of claim 1 wherein L1 a heteroakylene  
 and with respect to R1 (1), L2 is bond, R2 is substituted aryl



corresponding to compound of claim 1 wherein L1 a bond  
 and with respect to R1 (1), L2 is bond, R2 is substituted aryl;

Claims 1 rejected under 35 U.S.C. 102(b) as being anticipated by DiCesare et al  
 Tetrahedron Letters (2002), 43(14), 2615-2618.

DiCesare et al teach



corresponding to compound of claim 1 wherein L1 a heteroakylene  
 and with respect to R1 (1), L2 is bond, R2 is substituted aryl.

All compounds shown above have R1 para to L1 (claim 11 limitation), X = C

(claim 12 limitation). L1 bond is claim 13 limitation.  
The above references have been previously filed.

Claims 8, 17, 18 are objected to for depending on rejected base claim 1.

Claim 19 is allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIZAL S. CHANDRAKUMAR whose telephone number is (571)272-6202. The examiner can normally be reached on 8.30 AM - 4.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on 571 0272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nizal S Chandrakumar/  
Examiner, Art Unit 1625

Application/Control Number: 10/596,751  
Art Unit: 1625

Page 7